(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 989 532 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
29.03.2000 Bulletin 2000/13

(51) Int. Cl.[7]: **G08B 21/00**

(21) Application number: **98830559.5**

(22) Date of filing: **23.09.1998**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

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(54) Electronic alarm for looking after a child

(57) The apparatus consists of two interacting devices of which the device A, to be stable put ont eh child body, provides a code limited power transmitter transmitting in continuous impulses to a second device B, kept by the locking after person, provides a receiver with the same code to be put in stand-by by the receivement of the same impulses. When the receivement of said impulses comes to stop owing to the exit of the receiver B from the radius of action of the transmitter A caused by the taking away of the child beyond an arranged safety limit, a sound signal and/or light signal starts so alerting the looking after person.

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Description

[0001] The invented device consists of an electronic alarm to be used to lock after a child which alerts in the case the same child goes away beyond a pre-arranged distance so permitting a prompt intervention also if other activities are made in that moment. The device to be used both into a house that in the open air inside an area without dangers such as a meadow, a play room for children or other and particularly to be used by the keeper when contemporary other activities are made. Currently to keep and eye on the child is an activity which asks for a continuous presence and consequently it excludes the possibility to make contemporary other works in correct way. This make impossible for the person looks after a child and contemporary does other for example the housework, the book reading, the watching television and this usually causes to the person to overtire itself. Said problems are avoided with the invented device because the looking after person, placed the child inside a save pre-arranged place and activated the alert device, can leave the same child and prompty intervene in the case of the warning signal informing that the same child is gone out from the pre-arranged safety limit. The apparatus consists of an electronic alarm to be started when an its part puts on the child comes to be beyond an arranged distance from the other part controlled by the looking after person. The apparatus is formed by two interacting devices of which one is to be blocked on the child, for example including it in a bangle, in a clothing or other, and it consists of a code limited power transmitter which transmits a continuous signal while the other device, of which is equipped the looking after person, consists of a receiver with an equal code which, when does not receive the signal because the child is gone out from its radius of action, starts a warning signal providing the emission of buzz so alerting the looking after person for a prompt intervent. In a particular embodiment is provided that the transmitter, to be put on the child, is to be inserted in a toy or in a gadged such a bangle, a watch or a chain so creating and other used mode. Whereas structurally this insertion permits a stable disposition of the transmitter on the child moreover protecting the same transmitter incorporated into the said articles from a possible tampering. The electronic apparatus consists of two interacting devices of which the device A, to be stable put on the child body, provides a code limited power transmitter trasmitting in continuous impulses to a second device B, kept by the looking after person , provides a receiver with the same code to be put in stand-by by the receivement of the same impulses. When the receivement of said impulses cane to stop owing to the exit of the receiver B from the radius of action of the transmitter A caused by the taking away of the child beyond an arranged safety limit, a sound signal and/or light signal starts so alerting the looking after person. For working in the device A from a battery 1a, on line 2a, the current comes to a logic unit 3a forming a time code generator such a microchip card or a logic card that on line 4a sends the generated codes to a transmitter 5a radiating said codes through an inside antenna 6a toward a device B. Said device B, received said signals through and inside antenna 1b, send them to a receiver 2b and, on line 3b, they arrive to a logic unit 4b for the code translation. In missing of receivment of said codes is starting on line 5b an acustic signal generator 6b. Both the receiver 2b than the logic unit 4b to be fed on lines 7b and 8b by means of a battery 9b. In a second embodiment the electronic apparatus consists of two interacting devices to be fed by solar power of which the device C to be stable put on the child body and the device D kept by the looking after person. For working the device C provides a solar cell 1c that, on line 2c, feeds an accumulator 3c connected on line 4c to a logic unit 5c which on line 6c sends the generated codes to a transmitter 7c radiating the same codes through an inside antenna 8c toward the device D. Said device D, after to have received said signals through an inside antenna 1d, sends them to a receiver 2d that on line 3d sends them to a logic unit 4d for the code translation. In the case that said codes are missing on line 5d is started an acustic signal 6d. Both the receiver 2d than the logic unit 4d are fed on lines 7d and 8d by an accumulator 9d. Said accumulator to be fed on line 10d through a solar cell 11d. Different embodiments of the invented device are illustrated in the drawings of sheets 1, 2 and 3. In sheet 1 fig. 1 is a schematic block diagram illustrating the apparatus consists of the devices A and B. In sheet 2 fig. 2 is a schematic block diagram illustrating the device to be fed by solar power consisting of the devices C and D. In sheet 3 the fig. 3 is schematic view of the receiver B, kept to the looking after person, placed in the radius of action of the transmitter B put on the child so determing the no-activation of the alarm system. Fig. 4 is schematic view of the receiver 8 out of the radius of action of the transmitter A so determing the activation of the alarm system.

Claims

1. Electronic alarm for looking after a child providing an apparatus consists of two interacting devices of which the device A, to be stable put on the child body, provides a code limited power transmitter trasmitting in continuous impulses to a second device B, kept by the looking after person, provides a receiver with the same code to be put in stand-by by the receivement of the same impulses; characterized in that:

    - when the receivement of said impulses come to stop owing to the exit of the receiver B from the radius of action of the transmitter A caused by the taking away of the child beyond an arranged safety limit, a sound signal and/or

light signal starts so alerting the looking after person;

- for for working in the device A from a battery (1a) on line (2a) the current comes to a logic unit (3a) forming a time code generator such a microchip card or a logic card that on line (4a) sends the generated codes (o a transmitter (5a) radiating said codes through an inside antenna (6a) toward a device B;
- said device B received said signal through and inside antenna (1b), send them to a reciver (2b) and on line (3b) they arrive to a logic unit (4b) for the code translation, in missing of receivement of said codes is starting on line (5b) an acustic signal generator (6b).

2. Electronic alarm for looking after a child, as per claim 1), characterized in that the receiver (2b) and the logic unit (4b) are fed on lines (7b and 8b) by means of a battery (9b).

3. Electronic alarm for looking after a child, as per claim 1), characterized in that in a second embodiment the electronic apparatus consists of two interacting devices to be fed by solar power of which the device C to be stable put on the child body and the device D kept by the looking after person; for working the device C provides a solar cell (1c) that on line (2c) feeds an accumulator (3c) connected on line (4c) to a logic unit (5c) which on line (6c) sends the generated codes to a transmitter (7c) radiating the same codes through an inside antenna (8c) toward the device D; said device D, after to have received said signals through and inside antenna (1d), sends them to a receiver (2d) that on line (3d) sends them to a logic unit (4d) for the code translation; in the case that said codes are missing on line (5d) is started an acusti signal (6d).

4. Electronic alarm for looking after a child, as per claim 3), characterized in that the receiver (2d) and the logic unit (4d) are fed on lines (7d and 8d) by an accumulator (9d) to be fed on line (10d) through a solar cell (11d).

5. Electronic alarm for looking after a child, as per claim 1), characterized in that the transmitter is to be inserted or connected in a toy or in a gadget such a bangle, a watch, a chain or other.

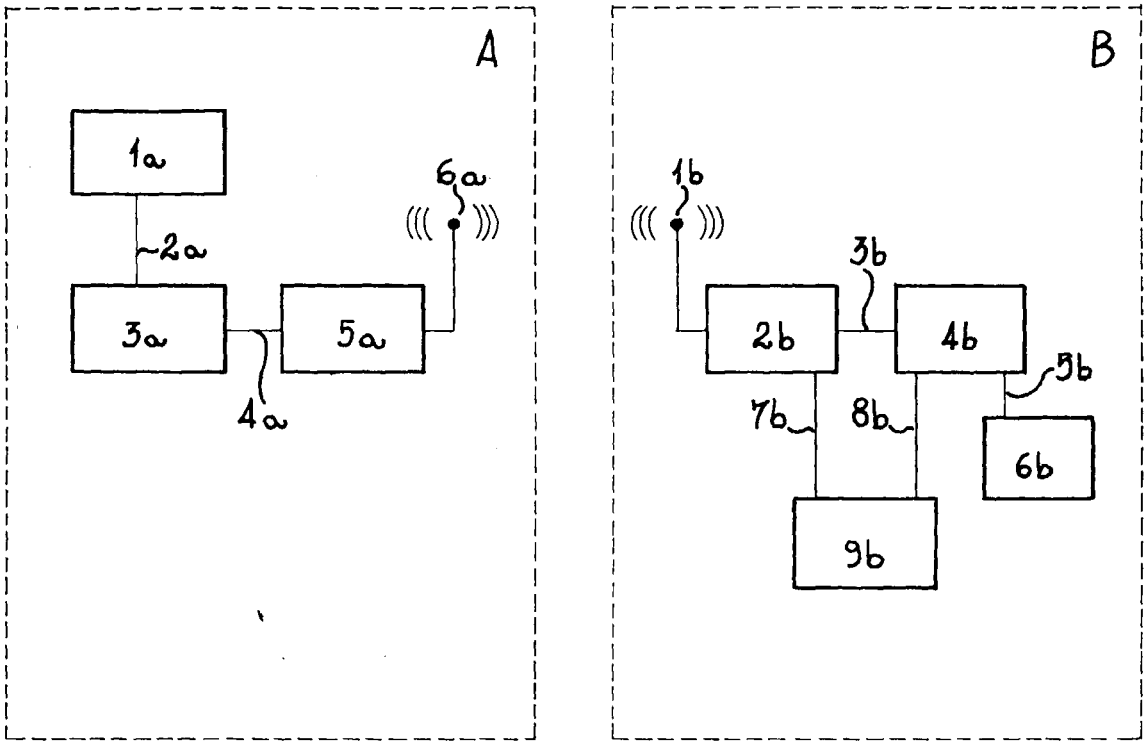

FIG. 1

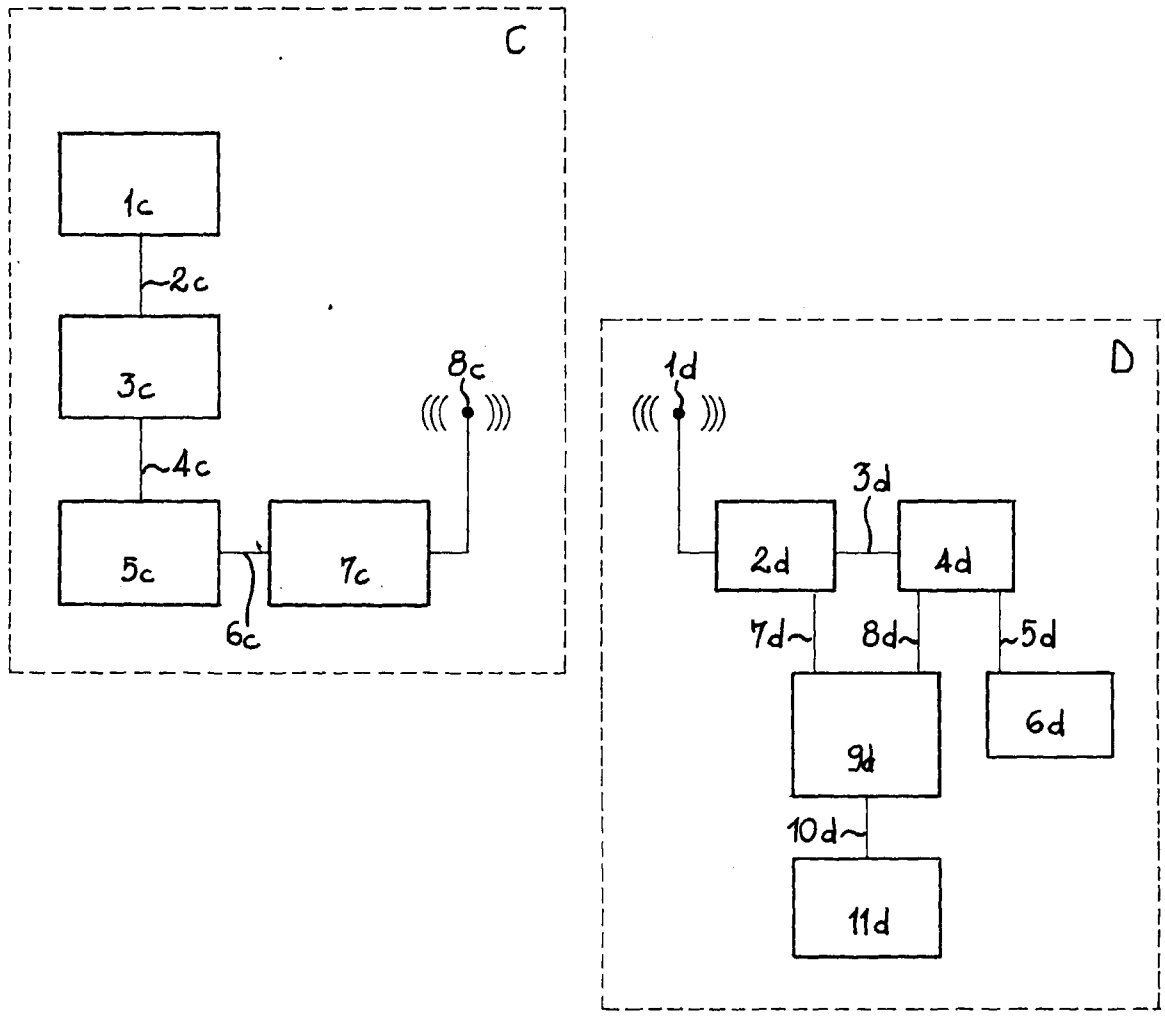

FIG. 2

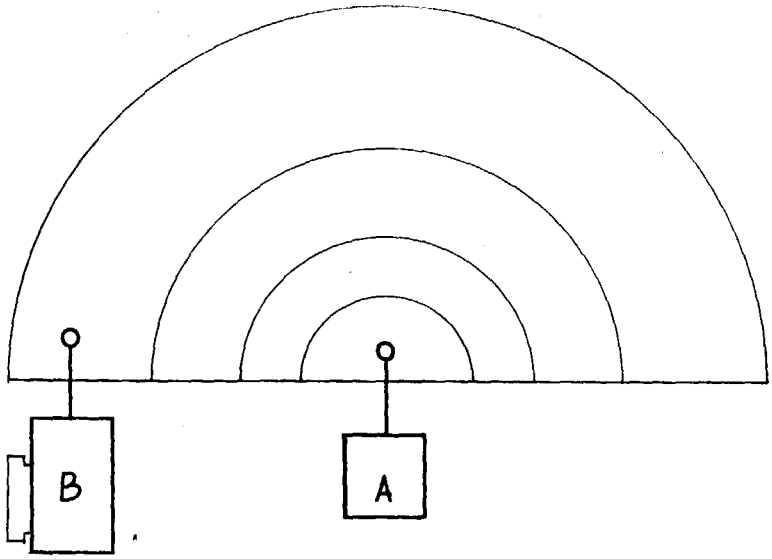

FIG.3

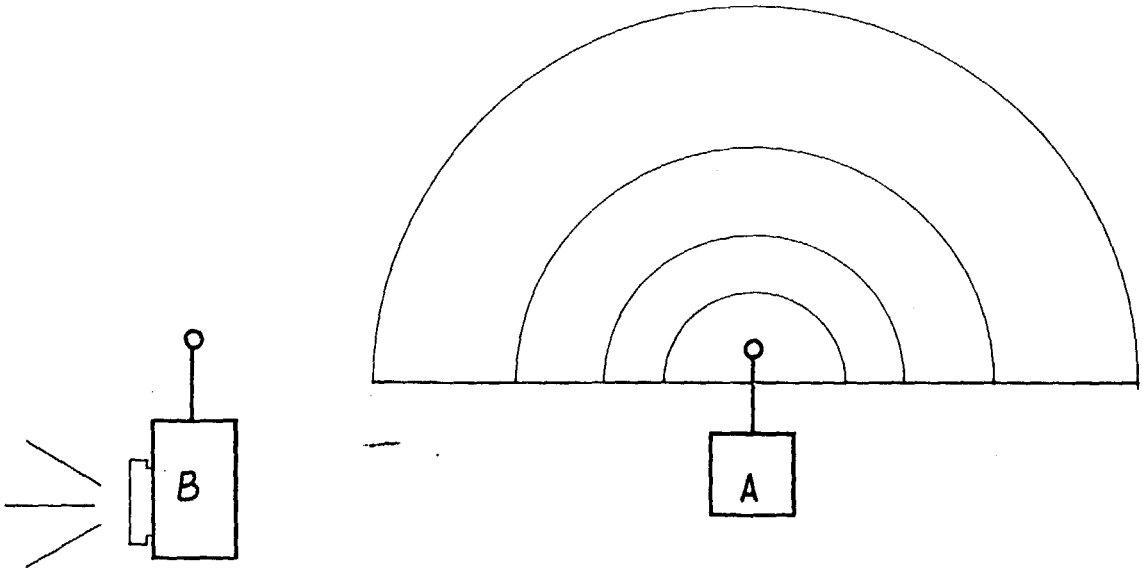

FIG.4

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EUROPEAN SEARCH REPORT

Application Number
EP 98 83 0559

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	DE 44 36 991 A (DEUTSCH WILHELM ;LEWIN STEPAN (DE); SCHANDER JURY (DE)) 11 April 1996 * column 3, line 41 - column 4, line 31; figures 1-3 *	1-5	G08B21/00
X	GB 2 248 330 A (SEEMAN DAVID WILLIAM) 1 April 1992 * claims 1-11 *	1-5	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

G08B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	2 March 1999	Sgura, S

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 98 83 0559

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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02-03-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 4436991 A	11-04-1996	NONE	
GB 2248330 A	01-04-1992	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82